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81/W/RN/14 Long Term Phosphate - Clover/GRASS Ley

Rothamsted Research

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81/W/RN/14

LONG TERM PHOSPHATE

Object: To study the residual effects of superphosphate on a clover/grass ley - Woburn Stackyard III.

Sponsor: G.E.G. Mattingly.

The 14th year, clover/grass ley.

For previous years see 68/B/8(t), 69/W/RN/14, 70/W/RN/14(t), 71/W/RN/14(t), 72/W/RN/14(t) and 73-80/W/RN/14.

Design: 6 blocks of 6 plots, split into 2.

Whole plot dimensions: 8.53 x 15.8.

Treatments: All combinations of:-

Whole plots

1. P205RES(73) Residues of superphosphate applied autumn 1967 and spring 1973 (kg P205):

	1967	1973	Total
0	None	None	None (Duplicate plots)
360	188	172	360
720	376	344	720
1440	753	687	1440
2160	1130	1030	2160

Sub plots

2. P205 81 Superphosphate in 1980 & 1981 in addition to residues, applied in three equal dressings 1970-72, (kg P205):

(0)0	None
(376)114	376 total applied 1970-72, 57 in 1980, 57 in 1981.

Basal applications: Manures: MgO at 30 kg as kieserite and K₂O at 240 kg as muriate of potash in winter. (25:0:16) at 390 kg in spring and 360 kg after the first cut.

Cultivations, etc.: - Mg applied: 3 Dec, 1980. K applied: 4 Dec. P treatments and NK applied: 19 Mar, 1981. Cut: 17 June, 26 Aug. NK applied: 25 June.

81/W/RN/14

1ST CUT(17/6/81) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

P205RES(73)	0	360	720	1440	2160	MEAN
P205 81						
0(0)	7.94	8.57	7.68	7.01	7.00	7.69
(376)114	7.95	8.44	7.83	7.03	7.72	7.82
MEAN	7.95	8.50	7.75	7.02	7.36	7.75

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	P205RES(73)	P205 81	P205RES(73) P205 81	
SED	0.471		0.601	MIN REP
	0.408	0.216	0.520	MAX-MIN
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
P205RES(73)			0.528	MIN REP
			0.374	MAX REP

P205RES(73)
MAX REP 0
MAX-MIN 0 V ANY OF THE REMAINDER
MIN REP ANY OF THE REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.815	10.5
BLOCK.WP.SP	31	0.915	11.8

1ST CUT MEAN DM% 23.5

81/W/RN/14
2ND CUT (26/8/81) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

P205RES(73)	0	360	720	1440	2160	MEAN
P205 81						
0(0)	3.11	3.16	3.31	3.49	3.28	3.24
(376)114	3.30	3.43	3.49	3.43	3.37	3.39
MEAN	3.21	3.30	3.40	3.46	3.33	3.32

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	P205RES(73)	P205 81	P205RES(73) P205 81	
SED	0.126		0.177	MIN REP
	0.109	0.071	0.153	MAX-MIN
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
P205RES(73)			0.175	MIN REP
			0.123	MAX REP

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.218	6.6
BLOCK.WP.SP	31	0.302	9.1

2ND CUT MEAN DM% 22.4

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

P205RES(73)	0	360	720	1440	2160	MEAN
P205 81						
0(0)	11.05	11.73	10.98	10.49	10.28	10.93
(376)114	11.25	11.87	11.31	10.46	11.09	11.21
MEAN	11.15	11.80	11.15	10.48	10.69	11.07

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	P205RES(73)	P205 81	P205RES(73) P205 81	
SED	0.431		0.589	MIN REP
	0.374	0.231	0.510	MAX-MIN
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
P205RES(73)			0.567	MIN REP
			0.401	MAX REP

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.747	6.7
BLOCK.WP.SP	31	0.982	8.9

TOTAL OF 2 CUTS MEAN DM% 22.9 PLOT AREA HARVESTED 0.00145